STAT8801 Case Study Expectations
Spring 2013

The goal is for you to work together as a group to identify the client's questions, consider various methods of answering those questions, explore and analyze the data, and present the results.

Your group should prepare a presentation for the class, a written report for the client, and notes on your process for me (the instructor). Each individual should also prepare a short written reflection. See opposite side for more details.

As you know, this is the first time this course has included a project of this nature. I have outlined some fairly specific details below, as I think that can be helpful for you to understand what I have in mind. However, if your group has ideas that differ from this, that's fine too, just so long you can convince me that you've met the goal as outlined above. Small deviations are expected; if you have an idea for something very different, however, please talk to me about it ahead of time. Additionally, if you have any questions or suggestions, please don't hesitate to talk to me.

Tentative Schedule:

A tentative schedule follows. Again, your group need not follow this exactly, but I do expect you to generally go through each of these steps.

Week of Mar 11: Brainstorm about what questions you want to ask the client. Write me an email asking them, or invite me to any of your meetings to answer in person. Decide what the client's questions are, and begin to brainstorm about possible methods for answering the client's questions. Talk about what kind of data exploration you need to do to decide what methods would be appropriate. Decide how you will keep track of your progress for your "process notes." This might be one person's job throughout, or you might rotate.

Week of Mar 18: Explore the data in various ways. Look for patterns. What did you learn that will influence your choice of method? (Spring break, so no meeting)

Week of Mar 25: Decide what method(s) you want to use. Possibly divide into smaller teams to pursue several analysis methods or dig deeper into data exploration.

Week of Apr 1: Continue with analysis. What issues have arisen? How will you overcome them?

Week of Apr 8: Begin putting together your presentation and written report. Decide on your presentation format. What will your three parts be? Who will focus on each part? Who will write the report for the client? Who will make the table(s) and the graphic(s)?

Week of Apr 15: Continue with preparing the presentation. If the tables and graphics are done, get feedback on them. How might they be improved, given what we discussed in class?

Week of Apr 22: Have the presenters give a "practice talk" to the group, and get feedback from everyone. Circulate a draft of the report to clients and have everyone edit and proofread it.

Weeks of Apr 29 and May 6: Circulate your process notes among the group. Make sure everyone agrees with what has been written. Present your results to the class and turn in your written report, process notes, and individual reflections.

Presentation (to our STAT8801 class): We will dedicate an entire class period to your group's case, during either the week of Apr 29 or May 6. Your audience for this presentation is your fellow students; the idea is that you're telling them about this consulting experience, not that you're presenting to the client. I'd like you to present in three parts of 7-10 minutes each, each presented by a different individual, with time for questions after each part. I'm flexible about what the three parts look like, but as a whole, they should show that your group understood the case, explored the data, considered various options for analysis, and analyzed the data in at least one way. Additionally, at some point in the presentation, there should be at least one table and at least one graphic. Here are some ideas for how to divide it into three parts. Your group may have a different idea about how to divide the presentation. That's fine too.

Idea 1: Part 1: Introduction to the case. What it is about? What does the client want to know? What background information do we need to know to understand it? What questions did you have to ask the client to get at that information?
Part 2: Data exploration. An in-depth dive into the data, probably with numerous figures, to help the audience understand the features of the data set and the challenges it holds.
Part 3: Analysis using a chosen method. Describe the chosen method. Why did you choose it? What are its pros and cons? What are the results from the method? How do these results answer the client's question?

Idea 2: Part 1: Introduction to the case and data. What is the case about? What is the client's question? What does the data look like that we have to answer that question?
Part 2: Overview of possible methods. A brief description of a number of possible methods your group considered. How did each method answer the client's question? What were each method's pros and cons?
Part 3: Analysis using a chosen method. (as above)

Idea 3: Part 1: Introduction to the case and data. What is the case about? What is the client's question? What does the data look like that we have to answer that question?
Part 2: Analysis using a simple method. Choose a simple method, yet one that is reasonable for this situation. Why did you choose it? What are its pros and cons? What are the results from the method? How do these results answer the client's question?
Part 3: Analysis using a more sophisticated method. Why did you choose this method? What are its pros and cons, especially compared with the simple method? What are the results from the method? How do these results answer the client's question? Do these results support the analysis from the simple method, or are they different?

Written Report (for the client): A 3-5 page written report, written for the client. It should have these parts:

- Executive Summary: A short paragraph with a simple description of what was done and what the results were. (Remember, this is the only part the executive will read.)
- Results: A more in-depth exploration of the results. Include at least one table and at least one graphic, either here or in the next section.
- Methods and Additional Details: Describe in more detail the methods that you used. It's okay if this part feels like it might be too advanced for the client, but you should do your best to use understandable words and explain it in a way that the client will understand.

Process Notes (for the instructor): A written description of what you did in each of your meetings. Also include what was done outside of class to prepare for those meetings, and how the tasks were divided up between the individuals in the group. I'm also particularly interested in the group's feedback to the practice talk and draft report, as this will show me that everyone was involved in these parts. I'm expecting this to be more of a informal journal than a formal write-up. You could even send me an update after each meeting instead of waiting to the end.

Individual Reflections: A one to two page reflection on your part in this case study. You might consider any (or all) of these questions: What did you contribute to the group? What did you learn? Was anything more difficult (or easy) than expected? What part of the course was valuable in working on it? Also include any specific suggestions you have for improving this part of the course next year. (You'll also have a chance to do that anonymously at the end of the semester.)